

SYMPOSIUM PROGRAMME

Saturday, September 6

- From 17:00 Registration
- 18:15 – 20:00 DINNER
- 20:00 – 20:15 Opening of the symposium
- 20:15 – 21:00 **Helmut Holzer Memorial Lecture** [Chair: Boris Turk]
Matthew Freeman: Control of signalling by rhomboid-like proteins
- 21:00 – 23:00 GET-TOGETHER

Sunday, September 7

Cysteine proteases (cathepsins, calpains) and inhibitors, part I

[Chair: Christoph Peters]

- 08:45 – 09:10 Klaudia Brix: Trafficking of full-length cysteine cathepsins and their N-terminally truncated variants in colorectal and thyroid carcinoma cells
- 09:10 – 09:35 Thomas Reinheckel: Posttranscriptional regulation of cathepsin L *in vivo*: implications for expression, localization and protease function
- 09:35 – 09:50 Martina Tholen: Transcriptional regulation of the metastatic niche protein periostin by lysosomal proteases.
- 09:50 – 10:05 Veronika Stoka: Differential behavior of human cathepsin F variants

- 10:05 – 10:20 Eva Žerovnik: Human stefin B role in cell's response to mis-folded proteins and autophagy
- 10:20 – 10:35 Nataša Kopitar-Jerala: Cysteine proteinase inhibitor stefin B (cystatin B) in inflammation and endotoxemia
- 10:35 – 11:00 COFFEE BREAK

Cysteine proteases (cathepsins, calpains) and inhibitors, part II

[Chair: Klaudia Brix]

- 11:00 – 11:25 Hiroyuki Sorimachi: Muscle homeostasis controlled by two calpains
- 11:25 – 11:50 Boris Turk: Cysteine cathepsins and their diagnostic and therapeutic potential in inflammation-associated diseases
- 11:50 – 12:15 Yasuhiko Ozaki: Role of cathepsins and cystatins in pathogenesis of recurrent miscarriage
- 12:15 – 12:30 Dušan Turk: How substrates bind to cysteine cathepsins
- 12:30 – 12:45 Marko Novinec: Allosteric regulation of cysteine cathepsin K
- 12:45 – 13:00 Lukas Mach: Proteolysis of anti-HIV antibodies manufactured in *Nicotiana benthamiana*: identification and characterization of antibody-degrading papain-like cysteine proteinases
- 13:00 – 14:30 LUNCH BREAK

A colorful mix of serine proteases

[Chair: Jan Potempa]

- 14:30 – 14:55 James A. Huntington: Homology models of human prothrombinase and tenase complexes based on the crystal structure of *Pseutarin C*
- 14:55 – 15:20 Robert Pike: Regulation of complement initiating proteases by C1-inhibitor is polyphosphate the physiological cofactor for this system
- 15:20 – 15:35 Evette S. Radisky: Significance of protein substrate structure and dynamics in proteolysis: insights from canonical serine protease inhibitors

- 15:35 – 15:50 Daniel Kirchhofer: Identification of neutrophil serine protease 4 (NSP4) as a novel pro-inflammatory enzyme with a unique active site structure
- 15:50 – 16:15 Gunnar Pejler: A role for mast cell tryptase in histone modification
- 16:15 – 16:45 COFFEE BREAK

Protease cocktail before dinner - supreme aperitive

[Chair: Christopher M. Overall]

- 16:45 – 17:10 James Whisstock: Cleavage of the growth factor Trunk during *Drosophila* terminal patterning
- 17:10 – 17:35 F. Xavier Gomis-Rüth: Insight into structure and function of a metamorphic transformer metallopeptidase
- 17:35 – 18:00 Walter Stöcker: Selective inhibition of astacin metalloproteases by fetuin-B
- 18:00 – 18:25 Hans-Ulrich Demuth: Alternative beta-secretase processing generates N-terminally truncated Aβ peptides in different mammalian cells
- 18:25 – 20:00 DINNER
- 20:00 – 21:30 POSTER SESSION I

Monday, September 8

Protease specificity: proteomics, libraries etc.

[Chair: Dušan Turk]

- 09:00 – 09:25 Christopher M Overall: Pervasive interactions of proteases and their inhibitors form protein networks as part of a global protease web.
- 09:25 – 09:50 Kris Gevaert: Conservation of the extended substrate specificity profiles among homologous granzymes across species

- 09:50 – 10:15 Marcin Drag: Hybrid combinatorial substrate library in design of specific and active probes for proteolytic enzymes
- 10:15 – 10:30 Neil Rawlings: Will the real substrate please stand up?
- 10:30 – 11:00 COFFEE BREAK

Proteases in cancer: Catch me if you can!

[Chair: Thomas Reinheckel]

- 11:00 – 11:25 Hans-Uwe Simon: ATG5 expression and function in cancer
- 11:25 – 11:50 Bonnie F. Sloane: The active sites of tumor proteolysis: microfluidic platforms for live-cell imaging in 4D
- 11:50 – 12:15 Olga Vasiljeva: Visualization of protease dependent activation of an anti-jagged probody™ therapeutic in human tumor biopsies
- 12:15 – 12:40 Janko Kos: Cathepsin X in cancer: Molecular mechanisms and diagnostic and therapeutic opportunities
- 12:40 – 12:55 Tamara Lah: Expression analysis of all protease genes reveals cathepsin K and stefin B to be highly overexpressed in malignant brain tumours
- 12:55 – 13:10 Christoph Peters: Cysteine cathepsins B and Z can regulate the abundance of the cellular repressor of E1A stimulated genes
- 13:10 – 15:00 LUNCH BREAK

Insects and pathogens a la carte

[Chair: Robert Pike]

- 15:00 – 15:25 Hans Brandstetter: Crystal structures of the viral protease Npro imply distinct roles for the catalytic water in catalysis
- 15:25 – 15:50 Jan Potempa: A novel protease of type IX secretion system of *Porphyromonas gingivalis*
- 15:50 – 16:15 Gilles Lalmanach: Identification of two new proteases of the apicomplexan parasite *Eimeria tenella* as potential therapeutic targets of avian coccidiosis

- 16:15 – 16:30 Brenda Oppert: Functional analysis of C1 family cysteine peptidases in the larval gut of *Tenebrio molitor* and *Tribolium castaneum*
- 16:30 – 16:45 Elena N Elpidina: Predicted serine peptidases from the S1 chymotrypsin family in the larval gut of Tenebrionidae beetles
- 16:45 – 17:10 COFFEE BREAK

Death in the afternoon with caspases

[Chair: Peter Vandenabeele]

- 17:10 – 17:35 Boris Zhivotovsky: Caspase-2 promotes cytoskeleton protein degradation during apoptotic cell death
- 17:35 – 18:00 Galia Blum: Quenched fluorescent activity-based probes for cellular real time imaging of caspase 3
- 18:00 – 18:25 Mohamed Lamkanfi: Caspase-12: a death protease preventing mortality?
- 18:25 – 20:00 DINNER
- 20:00 – 21:30 POSTER SESSION II

Tuesday, September 9

Apoptosis and inflammation: Will you vanish or will you burn?

[Chair: Mohamed Lamkanfi]

- 9:00 – 9:25 Peter Vandenabeele: Regulation and execution of necroptosis: molecular mechanisms *in vitro* and *in vivo*
- 9:25 – 9:50 Joseph A Trapani: Failed CTLNK cell killing and cytokine hyper-secretion are directly linked through prolonged synapse time

9:50 – 10:05 Vivien R Sutton: Serglycin deficiency results in a profound effect on cytotoxic lymphocyte granule proteins and their function

10:05 – 10:30 COFFEE BREAK

Protein degradation and autophagy in health and disease

[Chair: Boris Zhivotovsky]

10:30 – 10:55 Ivan Dikic: Linear ubiquitin networks and protein homeostasis

10:55 – 11:20 Jeremy Murray: Structural and mechanistic understanding of USP7 activation through the discovery and development of small molecule inhibitors of USP7

11:20 – 11:35 Walter Halangk: Early zymogen activation in experimental pancreatitis is independent of ATG5-related autophagy

11:40 – 11:55 Sponsor presentation

12:00 – 12:45 ***Nobuhiko Katunuma Memorial lecture*** *[Chair: Vito Turk]*
Kenji Yamamoto: Association of cathepsin E with normal growth and development of mammary glands through proper trafficking and secretion of Wnt5a

12:45 – 13:00 Closing of the Symposium

13:00 – 20:00 LUNCH AND FREE AFTERNOON

20:00 – 24:00 GALA DINNER

Wednesday, September 10

HOTEL CHECK-OUT & DEPARTURE